

## **REMARKS**

In the Office Action dated July 30, 2007, claims 2-16, 18-28, 30 and 31 were objected to under 37 C.F.R. §1.75(c) as being of improper dependent form. As one basis for the objection, the Examiner stated that the independent claims were amended to be “closed ended” but the dependent claims appear to add additional elements.

In response, the independent claims have been amended to make clear that the “closed ended” portion of those claims concerns only the electrical components. The module can include at least one mechanical component, and therefore it is proper to state that the module “comprises” this at least one mechanical component and the electrical components. The electrical components, however, can include only the acousto-electrical transducer, the electro-acoustical transducer, and the module signal processing unit, and therefore the closed-ended term “consisting” has been used to refer to these electrical components.

In view of the amendments to the independent claims, there is no preclusion in dependent claims 2 and 3 of further describing the at least one mechanical component. Moreover, dependent claims 4 and 5, and dependent claims 21 and 22, do not add further components in contradiction to the use of the term “consisting of” in the respective independent claims, but only further identify one of the “consisting of” components of the independent claims.

The other basis for the objection under 37 C.F.R. §1.75(c) was that claims 12 and 15 do not appear to narrow the scope of claim 1. Those claims accordingly have been cancelled.

All of the dependent claims of the application are therefore submitted to be in compliance with 37 C.F.R. §1.75(c).

Claims 1-3, 8-13 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Aceti in view of Danielsen et al. Claims 4-6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Aceti in view of Danielsen et al., further in view of DE 198 52 758. Claim 7 was rejected under 35 U.S.C. §103(a) as being unpatentable over Aceti in view of Danielsen et al., further in view of Klope. Claim 14 was rejected under 35 U.S.C. §103(a) as being unpatentable over Aceti in view of Danielsen et al., further in view of DE 32 23 809. Claim 19 was rejected under 35 U.S.C. §103(a) as being unpatentable over Aceti in view of Danielsen et al., further in view of DE 195 45 760. Claims 17-20 and 30 were rejected under 35 U.S.C. §103(a) as being unpatentable over Aceti in view of Danielsen et al. and DE 32 23 809. Claims 21-23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Aceti in view of Danielsen et al. and DE 32 23 809, and DE 198 52 758. Claim 24 was rejected under 35 U.S.C. §103(a) as being unpatentable over Aceti in view of Danielsen et al., further in view of Klope. Claim 31 was rejected under 35 U.S.C. §103(a) as being unpatentable over Aceti in view of Danielsen et al. and DE 32 23 809 and DE 195 45 760.

These rejections are respectfully traversed for the following reasons.

The Examiner acknowledged that in the Aceti reference, there is no teaching that the feedback is substantially fixed, but the Examiner stated that, to the extent that this is the case in the hearing aid disclosed in the present application, this must also be the case in the Aceti reference. Applicants do not agree with this conclusion by the Examiner for several reasons.

Although it is of course true that the electronic assembly in Aceti is mounted in a cylindrical shell, there is no teaching in the Aceti reference that these components should be, or always will be, mounted in the same positions relative to each other. In fact, since patent drawings are intended to be merely exemplary, it is most likely the fact that Aceti has merely shown a schematic example of a number of components contained in the shell, without any thought (and certainly no specific disclosure) being given to whether those components should always be arranged in the same manner. Therefore, Applicants submit that even though the Aceti reference shows a number of electrical components combined in an assembly in a shell, Applicants submit this does not constitute a teaching or a suggestion in the Aceti reference of a unit wherein the acousto-electrical transducer and the electro-acoustic transducer are pre-combined so that a feedback associated with those components is substantially fixed. Applicants submit that it is only by a first reading Applicants' disclosure that the Examiner has assumed that the components in the shell in the Aceti reference must also be pre-combined so that the feedback between those components is fixed.

Moreover, even if the feedback between those components could (incorrectly, Applicants submit) be considered as "fixed," there is still no teaching in the Aceti reference that the inventors of that reference appreciated that fact, and certainly there is no disclosure that they made any use of that fact for preprogramming a processor in order to suppress that substantially fixed feedback. As the Examiner has noted, the Aceti reference discloses a processor, but this is the overall, general processor for the entire hearing aid, that is also used (i.e., is programmed) to counteract the hearing impairment of the user of the hearing aid. Independent claim

17 already makes clear that the module signal processing unit is something different from the hearing aid signal processor, because claim 17 explicitly states that the module signal processing unit is contained within the module, and the hearing aid signal processor is located outside of the module. In order to further emphasize this point, each of independent claims 1 and 17 has been amended to state that the module signal processing unit is programmed *only* to suppress the substantially fixed feedback. This makes clear that the module signal processing unit is a dedicated signal processor that is preprogrammed only to perform the feedback suppressing function.

Therefore, since the Aceti reference provides no information that the possibility of the transducers in the shell in that arrangement exhibit a substantially fixed feedback, there is, and cannot be, any disclosure or suggestion in the Aceti reference to preprogram a processor, dependent on that substantially fixed feedback, so as to suppress the substantially fixed feedback. Moreover, the Aceti reference does not disclose a processor that is dedicated for only that purpose. This is not a trivial distinction, because it is precisely because of the recognition that, if the transducers are arranged so that the feedback therebetween is substantially fixed, the processing (programming) necessary to suppress that feedback is much simpler, since not only is it known in advance, but it is also known that the feedback will not very significantly do to proceeding along different feedback paths. As noted in Applicants' previous response, conventional feedback suppression does not operate based on these assumptions, and is therefore very computational-intensive, and therefore it is difficult to accomplish in real time, as is desirable in the context of a hearing aid.

As to the additional reliance on the Danielsen et al. reference, Applicants submit this reference does no more than disclose a conventional hearing aid wherein, as in any hearing aid, the input transducer and the output transducer are physically mounted in a housing, so that the spatial relationship therebetween is fixed. Having such a fixed spatial relationship, however, is irrelevant, or at least only minimally relevant, to suppressing feedback, because in the Danielsen et al. reference, multiple feedback paths are possible. The Examiner cited the statement in Danielsen et al. at paragraph [0008], stating that feedback can be detected and a correction signal generated in production or at a fitting of the device, and that this will in most situations be sufficient since the transducer and the coil are fixed in relation to each other and the feedback signal is most often not influenced by the surroundings. Applicants submit this is not only an incorrect statement, but would easily be identified as an incorrect statement by any person who has worn a hearing aid, or any person who has been around a person wearing a hearing aid. The squeals and other noise associated with hearing aids experiencing feedback, as the hearing aid wearer moves into different audio situations, or adjusts the hearing aid in his or her ear, are familiar occurrences. It may be that under the controlled conditions described in paragraph [0008], the surroundings are fixed or known, and therefore, in that particular situation, the statement may be true. During the actual wearing of the hearing aid, however, this is certainly not true.

In fact, the present invention is based on the insight that if the fixed conditions that can be artificially produced during production of a hearing aid can be somehow maintained while the hearing aid is actually being worn, then the aforementioned assumptions are accurate. Only the present inventors, however, have had the

insight to create a module wherein the acousto-electrical and electro-acoustical transducers are pre-combined, so that these fixed feedback conditions are artificially maintained, even when the hearing aid is being worn. In the Danielsen et al. reference, these conditions most certainly will not apply outside of the production location of the hearing aid, and in the Aceti reference, the inventors did not even appreciate the possibility that, by placing the components in a shell, the feedback between the transducers might then be fixed, so that processing for suppressing the feedback could be greatly simplified. Applicants submit that the only location wherein these two features have been combined in a meaningful and useful manner is in Applicants' disclosure, and Applicants submit that the Examiner has permitted himself to be guided by Applicants' disclosure in reaching the conclusions regarding the alleged obviousness of combining the teachings of Aceti and Danielsen et al.

Applicants respectfully submit that, without having the benefit of first reading Applicants' disclosure, the Aceti and Danielsen et al. references represent the situation of a person of ordinary skill in the field of hearing aid design having two disparate pieces of information at his or her fingertips, but failing to have the insight as to how these disparate items of information could be brought together in a meaningful manner. As such, Applicants submit this is evidence of non-obviousness, rather than a basis for substantiating an obviousness rejection under 35 U.S.C. §103(a).

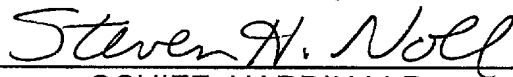
Applicants therefore respectfully submit that the subject matter of none of claims 1-3, 8-13 or 15 would have been obvious to a person of ordinary skill in the field of hearing aid design, based on Aceti and Danielsen et al.

As to the further rejections, all of those rejections rely on the Aceti/ Danielsen et al. combination as the principal basis, augmented by one or more further references. For the above reasons, Applicants submit that even if the Examiner is correct regarding the teachings of the various additional references cited by the Examiner, modifying the Aceti/ Danielsen et al. combination in accordance with any of those teachings still would not result in the subject matter of any of the dependent claims, and specifically would not result in the subject matter of independent claim 17.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required, or to credit any overpayment to account No. 501519.

Submitted by,



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